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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/502,718	02/11/2000	Ludmila Cherkasova	10992578-1	5563

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EXAMINER

NGUYEN, CHAU T

ART UNIT	PAPER NUMBER
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2176

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/502,718

Applicant(s)

CHERKASOVA ET AL.

Examiner

Chau Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
2. Claims 1-12 are presented for examination.
3. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection below.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 12/15/13*
5. Claims 1 ~~and 12~~ ^{through 12} ~~is~~ ^{are} rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 1 recites the limitation "'the different in sum" in claim 1, page 25, line 13.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yu, U.S. Patent No 6,351,775 and further in view of DeBettencourt et al. (DeBettencourt), U.S. Patent No. 6,279,001.

9. As to claim 1, Yu discloses a method for operating a server cluster comprising N server nodes to service client requests, each client request being directed to one of a plurality of sites hosted on said server cluster, each site being identified by a domain name and each server node being identified by an address on a network connecting said clients to said server nodes (Abstract), said method comprising the steps of:

grouping said sites into N groups, each group being assigned to a corresponding one said server nodes such that for each pair of groups(col. 6, lines 31-36; col. 7, lines 18-37; and col. 9, lines 27-33: denote $SA(j)$ as the number of requests for object classes assigned to server j); and

providing configuration information to a router accessible from said network, said information defining a correspondence between each of said sites and one of said server nodes assigned to one of said groups containing site, said router providing said address of said server node in response to a message specifying said domain name of said site (Abstract, col. 11, line 54 – col. 12, line 63).

However, Yu does not disclose measuring the computational resources required to service said requests to each of said sites over a first time period, and the difference in the sum of said measured computational resources is within a first predetermined error value. In the same field of endeavor, DeBettencourt discloses a traffic management subsystem for distributing web page requests to the web servers including a monitor for collecting and storing information related to the requests for web pages, the monitor includes a manager receiving web page request information from one or more agents each in communication with at least one of the web servers, and the request information is sent to the manager at a periodic time interval, for example, every 30 seconds (Abstract, col. 1, line 66 – col. 2, line 55, and col. 10, lines 1-16). DeBettencourt also discloses assigning a value to each web server which is a relative

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evaluation of the load capacity of that web server (the difference in the sum of said measured computational resources is within a first predetermined error value) (col. 22, line 37 – col. 23, line 33). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Yu and DeBettencourt to include measuring the computational resources required to service said requests to each of said sites over a first time period. DeBettencourt suggests that by monitoring the web page requests made of the web servers so the requests can be directed or redirected to balance the load among the web servers.

10. As to claim 2, Yu and DeBettencourt (Yu-DeBettencourt) disclose wherein said router is a Domain Name System (DNS) server (Yu, Abstract).

11. As to claim 3, Yu-DeBettencourt disclose wherein said sites return files in response to said requests, and wherein step of measuring said computational resources comprises recording information identifying each returned file, the size of the file, and the number of times that file was returned (DeBettencourt, col. 10, line 63 – col. 12, line 41 and Table 2 and Table 3).

12. As to claim 4, Yu-DeBettencourt disclose wherein each of said server nodes comprises a cache memory for facilitating the return of said files in response to said request and wherein said step of grouping said sites also depends on the amount of

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memory in said cache memory on each of said servers (Yu, col. 8, line 10 – col. 9, line 10; DeBettencourt, col. 22, line 37 – col. 23, line 33).

13. As to claim 6, Yu-DeBettencourt disclose wherein said measurement of said computational resources further comprises measuring the number of bytes of data returned in response to said requests for each site during said first time period (DeBettencourt, col. 10, line 63 – col. 11, line 50 and Table 2).

14. As to claim 7, Yu-Desai disclose estimating the number of bytes of data returned directly from said cache memory in servicing said requests for each site during said first time period (DeBettencourt, col. 10, line 63 – col. 12, line 41 and Table 2 and Table 3).

15. As to claim 8, Yu-DeBettencourt disclose wherein one of said sites belongs to two of said groups (Yu, col. 10, line 25-42).

16. As to claim 9, Yu-DeBettencourt disclose wherein one of said sites belongs to all of said groups (Yu, col. 10, line 25-42).

17. As to claim 10, Yu-DeBettencourt disclose wherein said router selects which of said service nodes corresponding to said two groups will service a request for that site (Yu, Abstract, and col. 11, line 54 – col. 12, line 63).

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18. As to claim 11, Yu-DeBettencourt disclose measuring the computational resources required to service said requests to each of sites over a second time period (Abstract, col. 1, line 66 – col. 2, line 55, and col. 10, lines 1-16); and

grouping said sites into N new groups, by swapping sites between said previous groups, each news group being assigned to a corresponding one of said server nodes such that for each pair of new groups (Yu, col. 9, line 51 – col. 10, line 42), the difference in the sum of said measured computational resources over said second time period is within a second predetermined error value (DeBettencourt, col. 22, line 37 – col. 23, line 33).

19. As to claims 12, Yu-DeBettencourt disclose wherein said new groups differ from said previous groups by as few site swaps as possible (Yu, col. 10, lines 25-42).

20. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yu, U.S. Patent No 6,351,775 and DeBettencourt et al. (DeBettencourt), U.S. Patent No. 6,279,001 as discussed in claims 1-4, and 6-12 above, and further in view of Desai, Patent No. 6,434,608.

21. As to claim 5, However, Yu-DeBettencourt does not explicitly disclose wherein said groups are chosen such that said files returned during said first time period more than a predetermined number of times can be stored simultaneously in said cache memory. In the similar field of endeavor, Desai discloses tracking request objects in a

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table in which it tracks objects for which at least one cache miss has occurred, and an object is only cached if it has been requested at least twice (Desai, col. 3, lines 14-44). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Yu-DeBettencourt and Desai to include said files returned during said first time period more than a predetermined number of times can be stored simultaneously in said cache memory to improve cache efficiency.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau Nguyen whose telephone number is (703) 305-4639. The Examiner can normally be reached on Monday-Friday from 8:00 am to 6:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Joseph Feild, can be reached at (703) 305-9792.

The fax phone numbers for the organization where this application is assigned are as follows:

(703) 872-9306 (After Final Communications only)

(703) 872-9306 (Official Communications)

(703) 746-7240 (for Official Status Inquiries, Draft Communications only)

Inquiries of a general nature relating to the general status of this application or proceeding should be directed to the 2100 Group receptionist whose telephone number is (703) 305-3900.

Chau Nguyen
Patent Examiner
Art Unit 2176


JOSEPH H. FEILD
PRIMARY EXAMINER